

ABSTRACT OF DISCLOSURE

A gas permeable probe for use in an optical analyzer for an exhaust gas stream flowing through a duct or chimney comprises:

- an elongate hollow structure having first and second ends and a side wall, with an optical cavity defined between said first and second ends within said side wall,
- a filter forming part of said elongate hollow structure,
- a mounting structure at said first end and adapted for mounting said elongate hollow structure within said duct or chimney,
- an optical window at said first end permitting a light beam originating from an optical analyzer to enter into said optical cavity to travel from said first end to said second end,
- a retroreflector provided at said second end for returning said light beam to said first end of said hollow structure, and
- a tube disposed within said mounting structure and having first and second opposite ends, said first opposite end being located remote from said first end of said elongate hollow structure and being closed by a first window adapted to transmit said light beam from an optical analyzer into the tube and said second end of said tube being closed by a second window adapted to transmit said beam of light from said tube into said optical cavity and said returned light beam from said optical cavity into said tube, said tube thereby defining a closed cavity, said closed cavity being one of an evacuated cavity and a cavity containing a neutral gas.

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